REMARKS

Applicants respectfully request reconsideration of this Patent Application, particularly in view of the above Amendment and the following remarks. A check for $25.00 is enclosed for this Amendment, as the number of independent claims is not more than three, and the total number of claims is now twenty-one.

Request for Telephone Interview

Applicants kindly request the Examiner to contact the undersigned at (847) 490-1400 to schedule a telephone interview, to discuss the merits of this Patent Application.

Amendment to the Claims

Applicants amended Claims 4, 5, and 15 to provide proper antecedent basis for claim limitations.

Applicants added new independent Claim 21. Support for new independent Claim 21 can be found in Claim 1 and at page 5, lines 6-9, of Applicants' Specification.

Claim Rejections - 35 U.S.C. §102

The rejections of Claims 1, 4-12, and 15-20 under 35 U.S.C. §102(b) as anticipated by Oba et al., U.S. Patent 6,176,807, Barrett, U.S. Patent 5,701,062, and Yamaguchi et al., U.S. Patent 5,865,263, are respectfully traversed.

In order to anticipate Applicants' claimed invention, the above prior art references must teach each and every limitation of Applicants' claimed invention. Applicants' claimed method recites "determining an acceleration demand of [a] combustion engine," and also includes powering an electromagnetic motor/generator in proportion to the determined acceleration demand. The electromagnetic motor/generator increases the rotational speed of the crankshaft to increase the acceleration rate of the combustion engine. None of the cited references teach or suggest Applicants' claimed method.

The Oba et al. Patent

The Oba et al. Patent discloses a drive control system for a hybrid vehicle. The electric motor in the Oba et al. Patent is used as a "motive force source," i.e., the electric motor moves the vehicle (Col. 2, lines 51-55). The electric motor is used to move or accelerate the vehicle in response to the pressing of the accelerator pedal (Col. 7, lines 56-67). The drive control system of the Oba et al. Patent is

different from Applicants' claimed invention. The Oba et al. Patent, while using an electric motor to accelerate a vehicle, does not disclose or suggest using an electromagnetic motor/generator to increase the acceleration rate of an operating combustion engine. The Oba et al. Patent also does not disclose or suggest determining an acceleration demand of a combustion engine, as in Applicants' claimed invention. The acceleration demand of the combustion engine, as defined at page 16, lines 9-11, of Applicants' Specification, is not the same as the acceleration of the vehicle, as in the Oba et al. Patent.

The Oba et al. Patent does not disclose or suggest at least the above discussed limitations of Applicants' claimed invention.

The Barrett Patent

The Barrett Patent discloses a pulsing drive system including a plurality of electric motors (Abstract). Like the Oba et al. Patent, the Barrett Patent discloses using the electric motors to power or accelerate a vehicle (Col. 2, lines 48-67) The "acceleration demand" of the Barrett Patent is the acceleration demand of the vehicle to increase traction or drive power to move the vehicle faster (*Id.*). The Barrett Patent does not disclose or suggest using an electromagnetic motor/generator to increase the acceleration rate of a combustion engine. The Barrett Patent also does not disclose

or suggest determining an acceleration demand of a combustion engine, as in Applicants' claimed invention.

The Barrett Patent does not teach or suggest at least the above discussed limitations of Applicants' claimed invention.

The Yamaguchi et al. Patent

The Yamaguchi et al. Patent discloses a hybrid vehicle that uses an electric motor to place the vehicle in motion (Col. 5, lines 43 and 52-55). A generator/motor 3 is used to start the engine at a predetermined speed (Col. 5, lines 43-46; Col. 6, lines 14-18). The generator/motor 3 of the Yamaguchi et al. Patent is in the generation mode until the engine needs to be started. The generator/motor 3 provides starting torque to start the engine, but the Yamaguchi et al. Patent does not teach or suggest determining an acceleration demand of the running engine and powering the generator motor in proportion to the acceleration demand, as in Applicants' claimed invention.

Thus, the Yamaguchi et al. Patent also does not teach or suggest all limitations of Applicants' claimed invention.

As none of the cited prior art references teach or suggest determining an acceleration demand of a combustion engine and powering an electromagnetic motor/generator in response to the determined acceleration demand, none of the references anticipates Applicants' claimed invention. Favorable reconsideration and withdrawal of all the anticipation rejections are requested.

Claim Rejections - 35 U.S.C. §103

The rejections of Claims 2, 3, 8, 9, 13, and 14 under 35 U.S.C. §103(a) as being unpatentable over each of Oba et al., U.S. Patent 6,176,807, Barrett, U.S. Patent 5,701,062, and Yamaguchi et al., U.S. Patent 5,865,263, are respectfully traversed. Claims 2, 3, 8, 9, 13, and 14 depend from one of independent Claims 1 and 12, respectively, and are thus patentable for at least the same reasons discussed above.

Furthermore, the prior art references cited by the Examiner disclose hybrid vehicles that incorporate an electric motor to accelerate the vehicle. As discussed at page 3, first full paragraph, of Applicants' Specification, the electric motors used to accelerate a vehicle are large machines generally having capacities of 10 kilowatts or greater in connection with 100 volt or higher battery systems. Applicants' recited kilowatt capacities and lower voltage battery systems would not

have been obvious to one skilled in the art in view of the larger hybrid vehicle systems which are designed to reduce the use of the combustion engine.

Applicants' claimed invention does not use an electric motor as a substitute for the combustion engine. The method of Claims 2, 3, 8, 9, 13, and 14 (and also new Claim 21) uses a lower capacity electromagnetic motor/generator, i.e., an integrated starter/alternator, to increase the acceleration of the (already running) combustion engine itself, not the vehicle.

The prior art references cited by the Examiner use an electric motor to move a vehicle and/or start a combustion engine in a moving hybrid vehicle. None of the cited references teaches or renders obvious Applicants' use of an electromagnetic motor/generator to increase the acceleration rate of a running combustion engine after determining an acceleration demand of the engine.

Favorable reconsideration and withdrawal of all the anticipation rejections are requested.

New Claim 21

New Claim 21 recites the electromagnetic motor/generator is an integrated starter/alternator having a capacity of about 2 kilowatts to about 6

kilowatts. New Claim 21 is patentable over the cited prior art for the same reasons discussed above.

Conclusion

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicants have not addressed in this response, Applicants' undersigned attorney requests a telephone interview with the Examiner.

Applicants sincerely believe that this Patent Application is now in condition for allowance and, thus, respectfully request early allowance.

Respectfully submitted,

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